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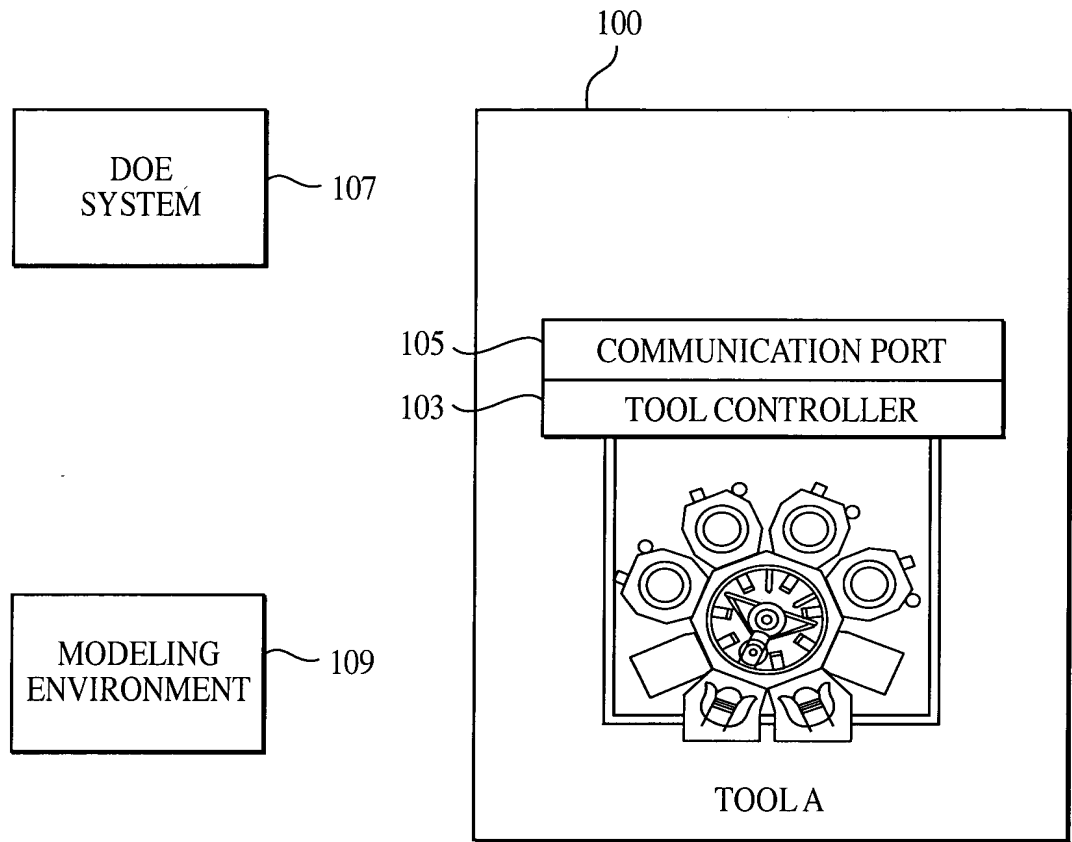


FIG. 1

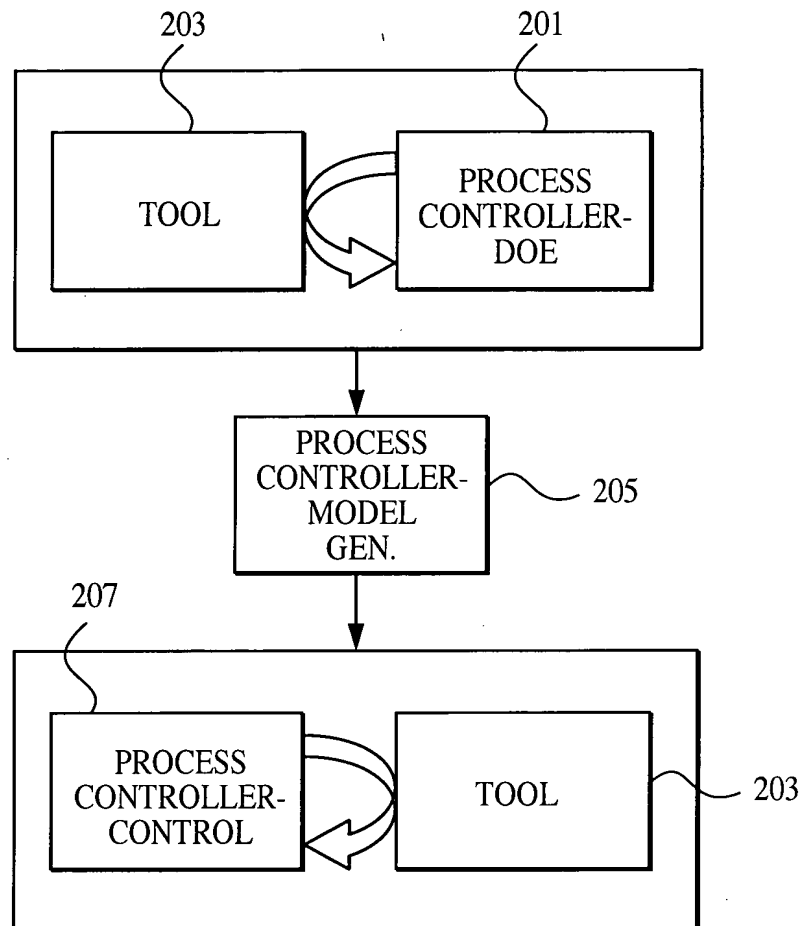


FIG. 2

Figure 1 is a screenshot of a software interface for creating a new DOE plan. The interface includes a title bar with a '<NEW DOE PLAN>' button and standard window controls. Below the title bar, there are three main sections: 'CURRENT STATE:' with an 'INACTIVE' button, 'DOE PLAN NAME:' with a text field containing 'PETEOS', and 'RESOURCE TYPE:' with a dropdown menu showing 'OXIDE CMP PROFILER : PLATEN1'. To the right of these sections is a large table with columns: FACTORS, RESPONSES, CASES, BLOCKS, EXPERIMENTS, and CONSTANT VALUE. The table contains three rows of data. Below the table are three buttons: 'NEW...', 'OPEN...', and 'DELETE...'. At the bottom right of the window are four buttons: 'ACTIVATE', 'SAVE', 'SAVE AS', and 'HELP'.

FACTORS	RESPONSES	CASES	BLOCKS	EXPERIMENTS	CONSTANT VALUE
BASELINE TIME	MSEC	20000	60000	N	
CENTER TIME	MSEC	0	20000	N	
EDGE TIME	MSEC	5000	15000	N	

FIG. 3

□ <NEW DOE PLAN>

CREATE R2R MODEL...

CURRENT STATE: INACTIVE

DOE PLAN NAME: PETEOS

RESOURCE TYPE: OXIDE CMP PROFILER : PLATEN1 ▼

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FACTORS RESPONSES CASES BLOCKS EXPERIMENTS

RESPONSE NAME	UNITS	LSL	USL	TYPE	DEFAULT VALUE
THICKNESS	ANGSTROMM	2000	6000	RAW DATA PA	4000
PAD LIFE	HRS	0	40	MEASURED VARI	

NEW...
OPEN...
DELETE

ACTIVATE SAVE SAVE AS HELP

FIG. 4

☐ <NEW DOE PLAN>

CURRENT STATE:

DOE PLAN NAME:

RESOURCE TYPE:

INACTIVE

AUTO GENERATE

MODEL STRUCTURE

LINEAR WITHOUT INTERACTIONS

LINEAR WITH INTERACTIONS

QUADRATIC WITHOUT INTERACTIONS

QUADRATIC WITH INTERACTIONS

DOE FRACTION:

DOE FRACTION:

CASES:

DOE METHOD

CENTRAL COMPOSITE DESIGN

FACTORIAL DESIGN

TO GENERATE

IMPORT...

ADD ROW

INSERT ROW

DELETE ROW

OK

CANCEL

HELP

ACTIVATE

SAVE

SAVE AS

HELP

FIG. 5

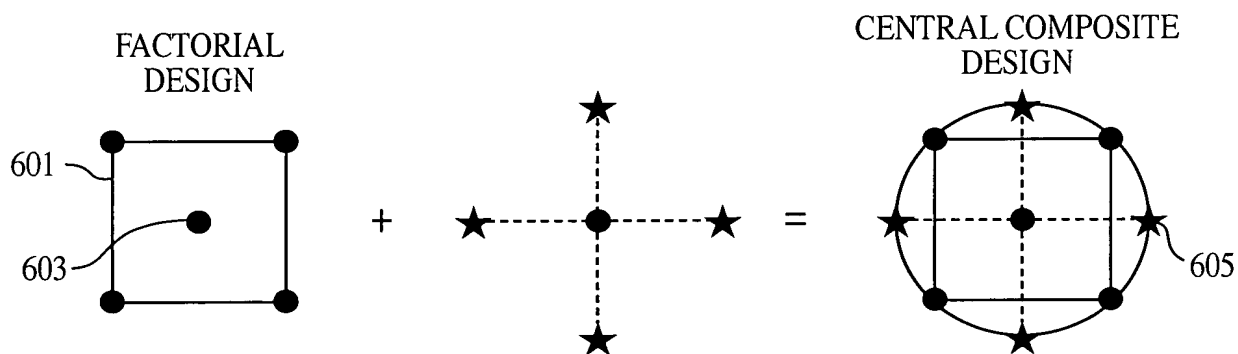


FIG. 6

SA BPSG

CREATE R2R MODEL...

CURRENT STATE:

INACTIVE

DOE PLAN NAME:

SA BPSG

RESOURCE TYPE:

CVD PRODUCER : PE-CVD

FACTORSRESPONSESCASESBLOCKSEXPERIMENTS

BLOCK NUMBER	BLOCK DESCRIPTION
1	LOW KIT
2	HIGH KIT

NEW...

OPEN...

DELETE

ACTIVATE

SAVE

SAVE AS

HELP

FIG. 7A

PE TEOS

CURRENT STATE:

INACTIVE

CREATE R2R MODEL...

DOE PLAN NAME:

PE TEOS

RESOURCE TYPE:

CVD PRODUCER : PE-CVD

FACTORS

RESPONSES

CASES

BLOCKS

EXPERIMENTS

EXPERIMENT	BLOCK	CASE	RFPOWER_1	RFPOWER_2	SPACING_1	SPACING_2	STEPTIME
1	1	1	700	700	250	250	55000
2	1	2	650	650	245	245	55000
3	1	3	700	700	245	245	55000
4	1	4	700	700	250	250	55000
5	1	5	650	650	250	250	55000
6	1	6	650	650	255	255	55000
7	1	7	750	750	245	245	55000
8	1	8	750	750	255	255	55000
9	1	9	750	750	250	250	55000
10	1	10	700	700	255	255	55000
11	1	1	700	700	250	250	55000

ADD ROW

INSERT ROW

DELETE ROW

ACTIVATE

SAVE

SAVEAS

HELP

FIG. 7B

GENERAL DETAILS

CURRENT STATE: INACTIVE

MODEL NAME: FSG

RE CONNECTION CELL

GENERAL DETAILS

NAME: FSG1

SELECT PARAMETERS CONT

CONTROLLED OUTPUT FUNCTION

OUTPUT THICKNESS

EX

DOE

FORMULA TYPE...

FORMULA TYPE

OUTPUT NAME: THICKNESS

FORMULA TYPE

REMOVE CONSTANTS

LINEAR WITHOUT INTERACTIONS 803

LINEAR WITH INTERACTIONS 805

QUADRATIC WITHOUT INTERACTIONS 807

QUADRATIC WITH INTERACTIONS 811

USE TEMPLATE 813

FORMULA TERMS: 815 817 819

COEFF. TERM	TIME-BASED

NEW...

OPEN

DELETE

NEW...

OPEN

DELETE

OK

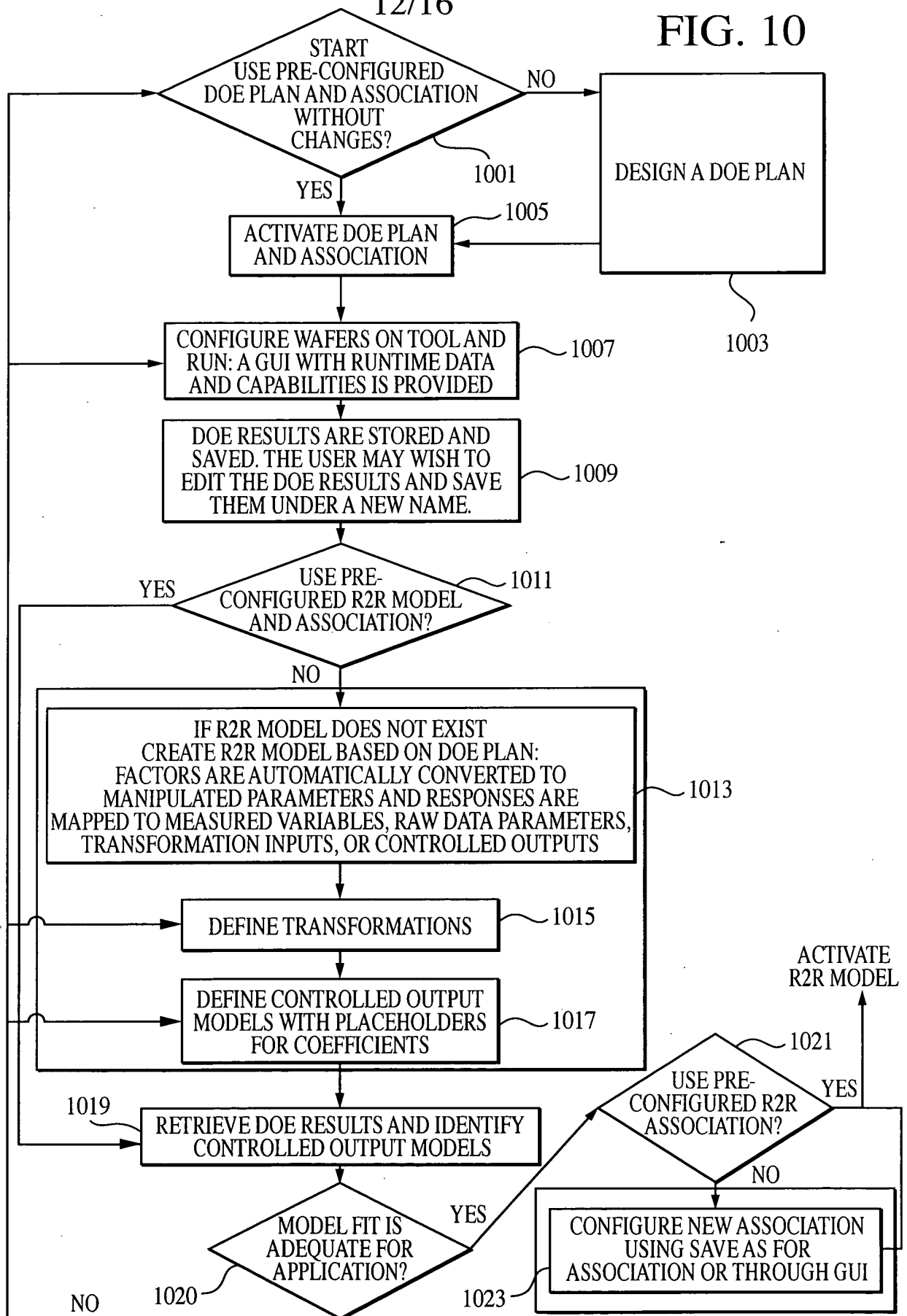
CANCEL

HELP

FIG. 8

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FIG. 10



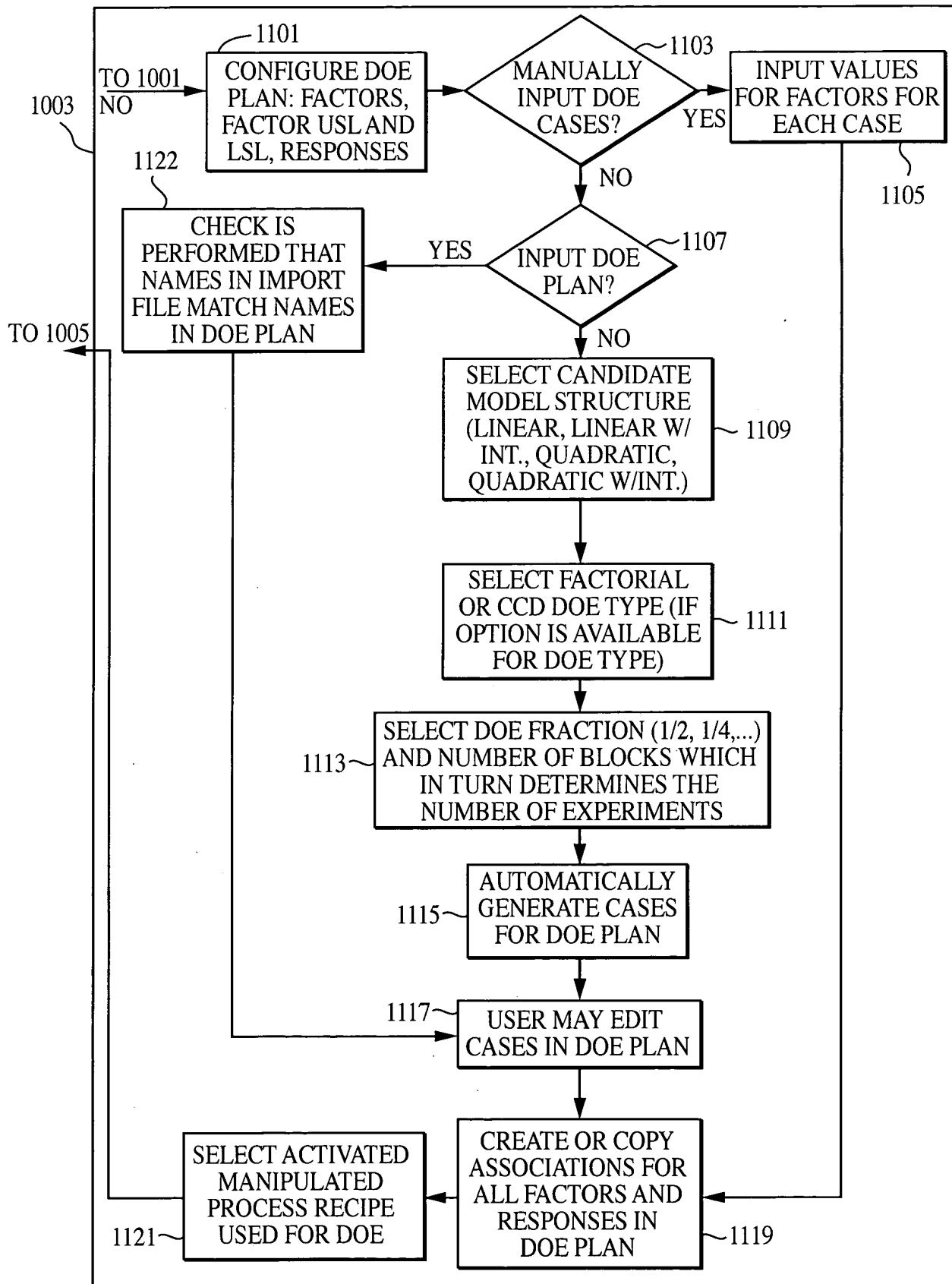


FIG. 11

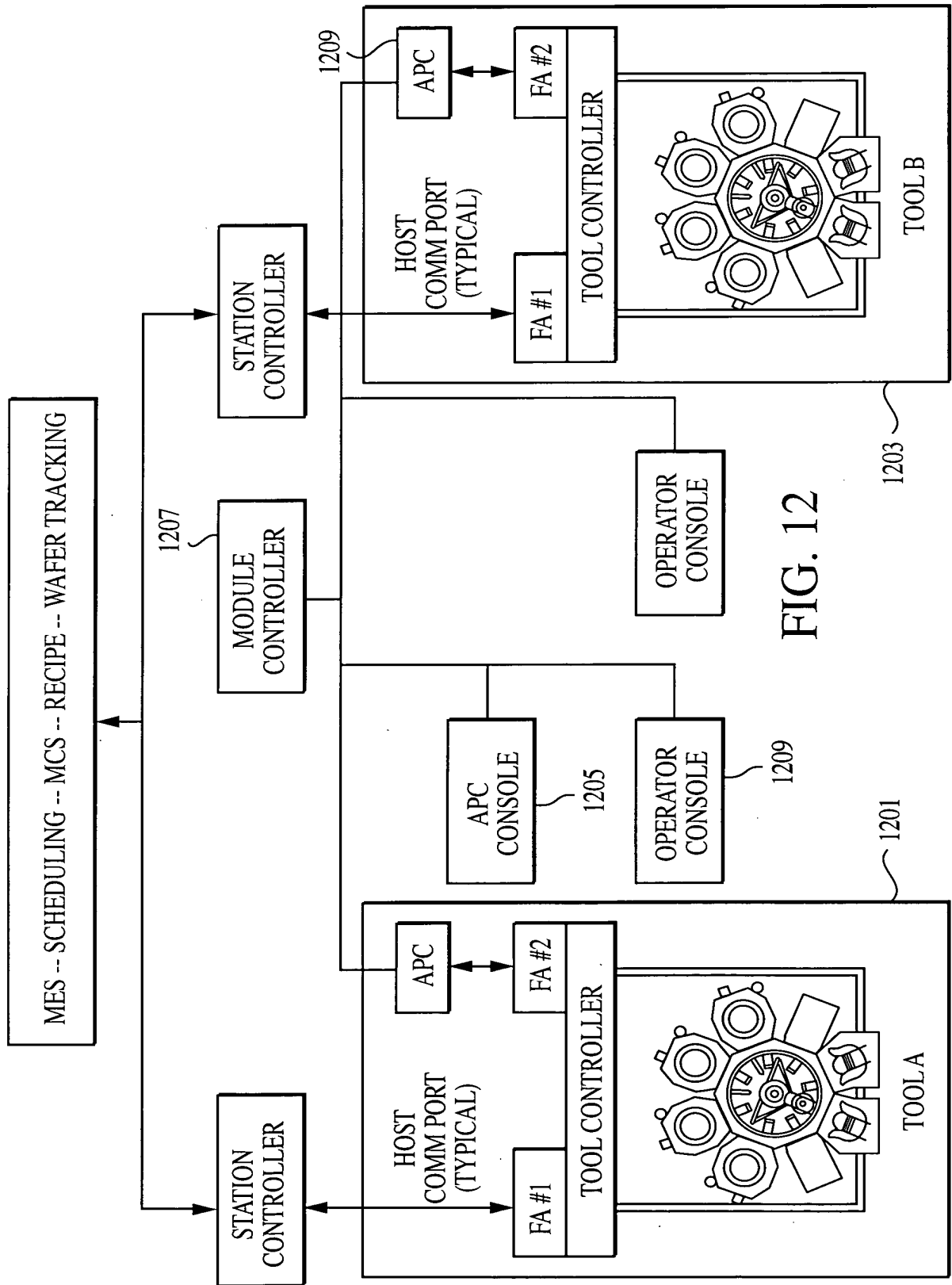


FIG. 12

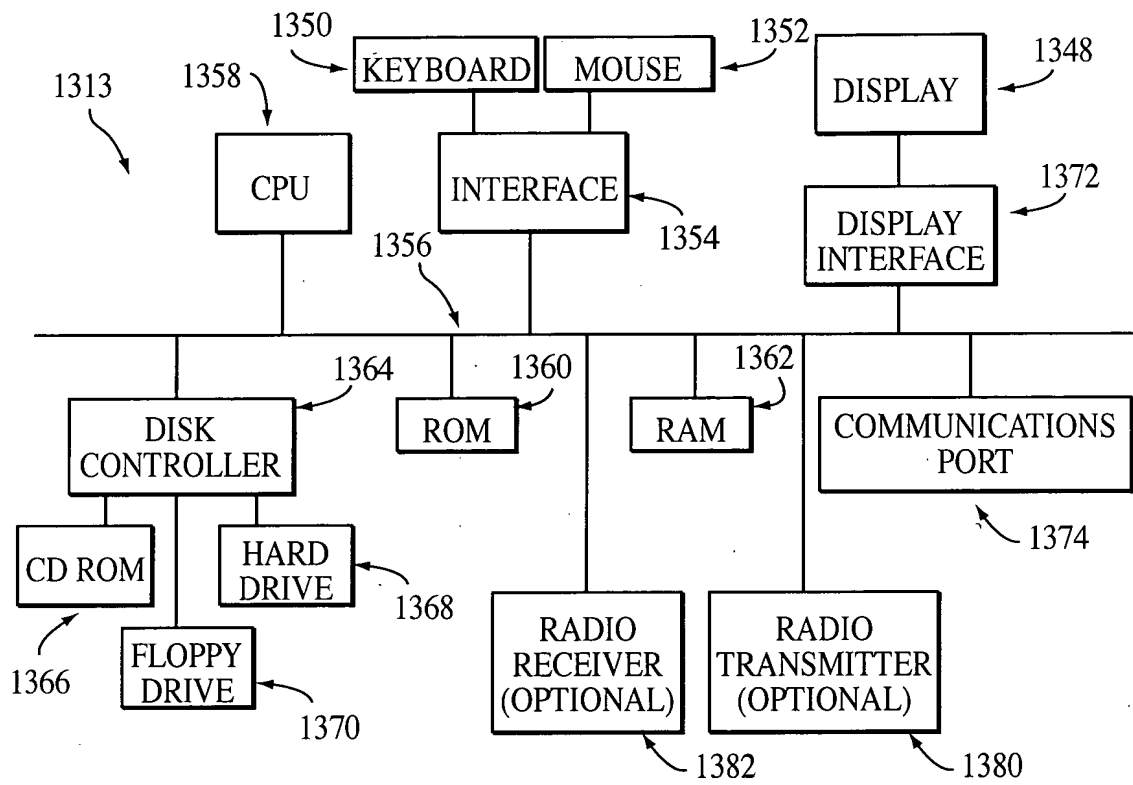


FIG. 13

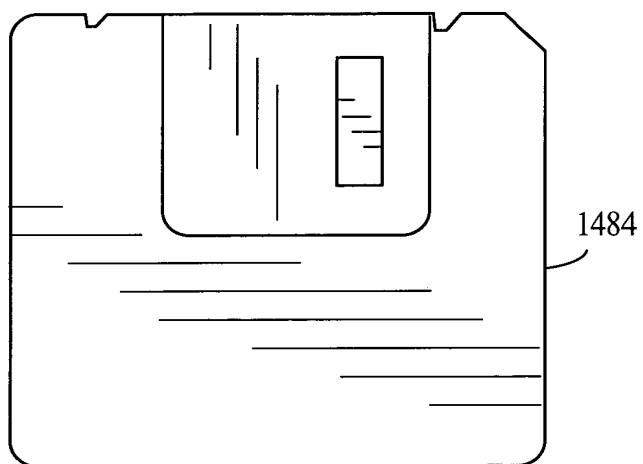


FIG. 14